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THE PHYTOLOGIST.

A BOTANICAL JOURNAL.

Ὡς ἐμεγαλύνθη τὰ ἔργα σου, Κύριε!—πλήρης ἡ γῆ τῆς κτήσεώς σου.

ΨΑΛΜ. ργ'. 24.

Benedicite universa germinantia in terra Domino; laudate et superexaltate Eum in secula.—*Hymn. tri Pueror.* v. 76.

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CONTENTS.

	Page
List of Local Botanists	161
Three Days' Botanizing at the Beginning of April	165
Remarks on the Botany of Burnham Beeches	168
British Orchids	171
Buddle's Herbarium	176
Observations during a Week's Botanizing in South Kent	177
Lathyrus tuberosus	186
Dates of Flowering of Plants in the Vicinity of Ross	188
On the Hybernacula of *Hydrocharis Morsus-ranæ*. With an Illustration	190
Botanical Notes, Notices, and Queries	191
Communications received	192
Publications received for Review	192

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WILLIAM PAMPLIN, 45, Frith Street, Soho Square.

List of Local Botanists. No. 1.

Our readers are indebted to the obliging and active Secretary of the Todmorden Botanical Society for the list of Lancashire and Yorkshire botanists published in this number of the 'Phytologist.' This is only a small portion of the names and addresses kindly furnished: the remainder will appear on a future occasion. The Editor desires that all other botanists, willing to assist in completing the list, will communicate with him direct, and thus save Mr. Stansfield the trouble of applying for permission and of transmitting the names.

To our obliging correspondents in Alnwick, Perth, and Sydenham, our kind acknowledgment of their zeal and goodness is due, and our thanks are hereby gratefully tendered.

The catholic principles on which the Todmorden Botanical Society is established, and the energetic efforts of its members to render science subservient to the noblest and best interests of mankind, have been warmly commended in these pages; and the example of their readiness in offering to aid strangers who, for botanical purposes, may visit their respective localities, is proposed for imitation by their more southern brethren.

We again beg to submit to the notice of *all* our readers that an eminent and dignified station, in the domains of science, will be accorded, not to those who know most, but to the men who make the best use of what they know, or by helping the weaker members of the brotherhood, not by eagerness to show their own superiority.

Our botanical creed is a short one, and soon said, but it is of a very comprehensive character. Our readers do not, after having had it expounded, both by word and work for seven years, need that it should be restated. But we propose one for those who are not able, out of the discordant principles now prevalent, to compile their confession of phytological faith. They need not swear allegiance to Linnæus, nor to the doctrines of his school. They may adopt the system of Jussieu or of De Candolle, or that of any of the great scientific notabilities of modern times. They need neither be *splitters* nor *lumpers*, as the two prevailing sects of British botanists are now, not very elegantly nor courteously, designated. The sole article we should propose as a test of a real, not a pseudo-botanist, is this,

BRITISH MUSEUM

viz. that he loves plants as the exponents of Divine power, wisdom, and goodness, and admires them as examples of beauty, order, and harmony, enjoys them as conducive to the cultivation of his piety, morals, and taste, and uses them for the various purposes of economy and ornament, for which they were created. This should be accepted as the first principles of botanical belief, and the practical part of this short creed is, that the true believer should be ever ready to receive and circulate knowledge, acquire it not for its own sake merely, but that he may, while he enlarges the sphere of his own enjoyments, have the far higher gratification of contributing to the happiness of his family, his friends, and connections.*

William Jolliffe, Almshouses, Newport Road, Ryde.
Daniel Humberstove, Beckenham, Kent.

Alnwick, Northumberland, List.

William Richardson, Finkle-street.
Henry Hunter, Clayport-street.
John Thompson, Northumberland-street.
William Charetton, Narrowgate-street.

Perth List.

F. B. White, Athole-place, Perth.
John Sim, gardener, Scone Palace.
Andrew Dickson, gardener, Scone Palace.
Robert Farquharson, druggist, 228, High-street.
John Macpherson, weaver, Pomarium-street.
Henry Boswell, Esq., Corn-market, Oxford.
T. W. B. Ingle, Esq., Wakefield.

Todmorden List.

Rev. Thomas Sutcliffe, Heptonstall.
John Nowell, the Market-place.—M.
Tom Stansfield, Vale Gardens, Hon. Sec. to the Todmorden Botanical Society.—P.
John Holmes, Church-street.
Jonathan Hedley, Platt's House.
William Patman, Mytholm.
William Sutcliffe, Heptonstall.
John Halstead, "The Hollins."
John Howarth, Robin Wood Mill.

* In the following list, P. denotes *Pteridologist*, M. *Muscologist*. Where there is neither of these letters affixed to a name, general botanist, or botany in general, is to be understood. Also, it may be desirable to state that the obtainment of the gratuitous or *paid* services of any of those persons whose names are in this list, is to be agreed on by the respective parties. This is not undertaken by the promoters of the present movement.

John Fielden, Vale Gardens.
James Horsfall, Vale Gardens.
Edmund Holt, Lumbutts.
Rev. Sutcliffe Sowden, Mytholm.
R. W. Foster, surgeon, Bank Buildings.

Halifax List.

Samuel King, Lane House, Luddenden-foot.
Charles Eastwood, Lane House, Luddenden-foot.
Ben, Barber, Woodfield House.
J. Walker, Post-office, Booth Town.

Huddersfield List.

W. Guthrie, Fixby Park.
White, Kirkheaton Nursery.
Peter Inchbald, Esq., Storthes Hall.

Rochdale List.

John Waddington, 47, Peel-street.
James Lund, Botanists' Inn, Ann-street.
John Aspden, Grove-street, Pinfold.
Wm. Thompson, "The One Ash."
James Schofield, Church Stile.
George Brierly, Milnrow.—M.
William Davies, Oldham-road.
William Bentley, Royton.
Walter Morris, surgeon, Drake-street.
Rev. — Mollineux, Crossfield.

Accrington List.

Fairbank Sutcliffe, Law-street.
George Lord, 9, Chapel-street.
George Fowler, Spring Hill.
John Dugdale, 6, Dutton-street.
George Chadwick, Bank-street.
Abraham Heyes, Grange-lane.

List of Manchester Botanists.

Leo H. Grindon, 85, Rumford Street, Hon. Sec. to the Field Naturalists' Society, author of the 'Manchester Flora,' etc.
Joseph Sidebotham, 21, George-street.—M.
G. C. Churchill, Esq., Dickinson-road, Rusholme.
John Bland Wood, M.D.—M.
Thos. Coward, Spring Gardens.
Rev. Stanford Harris, M.A., Ivy Cottage, Harpurhey.
Thomas Glover, Smedley-lane.
Edward Leeds, Stretford.
Joseph Fenton, Esq., Crimble Cottage, Heywood.
Richard Buxton, 72, Gun-street, Great Ancoats, author of 'Botanical Guide to Plants within sixteen miles of Manchester.'
Robert Holland, Mobberley.
George Edward Hunt, Bowdon.

John Leigh, M.R.C.S., 26, St. John-street.
J. Holme Nicholson, Owens College.
W. P. Scott, The Hodge, Broadbottom.
William. Turner, Esq., Pendlebury House.
Horatio Micholls, Esq., Bowdon.
R. S. Yates, Sale, near Manchester.
Bruce Findlay, Curator of Botanical Gardens.
Robert Lees, Bradford, Manchester.
William Patefield, Radcliffe.
John Holt, Stand-lane, near Radcliffe.
Thomas Bleachley, Whitefield.
George Hilton, Simister-lane, Little Heaton.—P.
James Barlow, Swinton.—P.
Henry Bleackley, Whitefield.
James Horsefield, Whitefield.—M.
George Hulme, Prestwich.
James Berry, St. James-street, Manchester.
Richard Hampson, Wharton Chapel, Little Hutton.
Joseph Evans, Booths-town, near Worsley.
Joseph Caldwell, Tyldesley Banks.
James Cooke, Ancoats-lane, Manchester.—M.
Thomas Rogers, Cookson-street, Butler-street, Manchester.—P.
Jonas Clegg, Esq., 21, Polygon Avenue, Ardwick.
William Chambers, Salford.

Stockport and Neighbourhood.

William Spencer, Hoyle's Buildings, Stockport.
Joseph Dunning, New Zealand-road.
Isaac Williamson, Albion Inn.
Robert Barton, Heaton Mersey.
Christopher Thornily, Heaton Mersey.

Middleton and Neighourhood.

John Turner, Church-street.
Adam Simpson, Cooper Fold.
John Bayley, Bradshaw Gardens, Chadderton.
William Kent, Street Bridge, Chadderton.
Edward Worsley, Ring o' Bells Inn, Hon. Sec. to the Middleton Botanical Society.

Blackburn.

John Witherington, Esq., surgeon.

Haslingden.

Thomas Holden, Whitecroft.

Preston.

C. J. Ashfield, Esq., 11, Frenchwood-street.
Edmund Graham, Bolton-street West.

Staleybridge.

Jethro Tinker.—M.

Ashton-under-Lyne.

E. Clough, Victoria Street, Ryecroft.
Whitehead, Dukinfield.

Eccles.

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Prestwich and Neighbourhood.

James Percival, Broughton Grove Works, Bury New Road,
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William Horsfield, Besses oth Barn.

Glossop.

J. Ollerenshaw, Dinting Vale.

Holmfirth.

Firth Hardy, Druid's Hall.

London.

W. Marshall, Esq., 11, Old Fish-street.
Sidney Beisly, Esq., the Cedars, Lawrie Park, Sydenham.
Mrs. Beisley, the Cedars, Lawrie Park, Sydenham.

Norfolk.

Rev. E. Simons, Ovington, Watton.

THREE DAYS' BOTANIZING AT THE BEGINNING OF APRIL.

(*From a Correspondent.*)

I started on the 1st of April for Andover, drawn in that direction by the promises of Murray's 'Handbook for Hants,' which bore witness of *Daphne Mezereon* as growing abundantly in the woods in that neighbourhood, and particularly in an Oak copse, the remains of what was formerly Harewood Forest, and still called by that name. I left this old country town, now no longer resonant with the passage of post-horses, and took the Stockbridge road. The country is part of the chalk plateau of Hampshire, Berkshire, and Wiltshire, the "*patria*," as Conybeare and Phillips express it, of all the chalk hills, the North and South Downs, the Dorsetshire hills, and the great range which terminates in Flamborough Head, all being a kind of claws thrown out from different angles of this body. Plateau though it be, it is as little of a level as Salisbury Plain itself, being all hill and dale, slope and hollow. The part immediately round Andover must once have been (in American phrase) a "rolling"

chalk down: it is now a blaze of white cornfield, with what hedges it has, reduced to the scanty, ugly mechanical measure of modern agricultural improvement; but after some interval the hollows become deeper, the hills woody, with even an occasional patch of open down, and the country assumes some of the character of the more beautitul chalk districts. About two miles from Andover the road divides, and the left branch climbs over a ridge towards the village of Wherwell. On the summit of this ridge the road skirts one extremity of the forest of which I was in search, and which stretches from this place, over hill and dale for a mile or two, perhaps much further, in an almost direct line towards the south. Presuming that what was said to be abundant in many places would be found with little difficulty, I commenced a regular search through the forest. A more immense abundance of Primroses, *Anemone nemorosa, Adoxa Moschatellina,* or the Violet which we are now to call *sylvatica,* I never saw, all in the greatest perfection of floral development, though it was only the 1st of April. A *Luzula* (I believe *Forsteri*) was equally plentiful, and I saw some fine *Oxalis Acetosella*. The root of every tree was coated with luxuriant Moss, and in some places the same Moss covered the ground, but no *Mezereon* rewarded my search, and I must have departed *re infectâ,* had I not by good fortune met with some woodmen in the heart of the forest, whom I asked for information. They all knew the plant, and knew it too by its right name; but they spoke of it as of a thing which they had only seen occasionally, and which, though growing in a number of places, is not abundant anywhere. One of them led me to a place full half a mile off, on the outskirt of the forest, near the road leading from Andover to Micheldever station, on the main Southampton line; and here, amidst dense brushwood, into which, but for his information, I should never have thought of penetrating, we (or rather he) found two plants, on one of which there were a few flowers. My guide said there had been more of the plant formerly in this place, but that the growth of the brushwood had been too powerful for it. In a short time it will, no doubt, in this spot, disappear altogether, to show itself again when next this portion of the copse is cleared. My guide had seen it in greater quantity, a few years ago, ten miles nearer town, in Bradley Wood, (I think he called it,) on Lord Carnarvon's property, near Kingsclere. The flowering was

nearly over, as might be expected from the advanced state of other and later spring flowers. The time to look for it would probably be March. I have seen it in perfection about the middle of May, in the woods of

> "Vallombrosa, where the Etruscan shades
> High overarched embower,"

and in the eastern Pyrenees as late as May 28th: but these, though so far south, were mountain situations, and in the latter case the season was a very backward one.

The next day I crossed to the Isle of Wight to look for the *Pulmonaria*, stated by Dr. Bromfield to grow in all the woods about Ryde. I first tried Quarr Copse, which, I grieve to say, is evidently in course of preparation for being cut up into villas. I found no *Pulmonaria*, though abundance of *Daphne Laureola* in full and fine flower. The next copse, however, Shore Copse, (the one between Quarr Abbey and the Solent,) abounded in the *Pulmonaria*, which I found equally plentiful in all the other woods, and occasionally thickets, in that direction. In some places it was as abundant, and almost as beautiful, as wood Hyacinths elsewhere. Its ample clusters of funnel-shaped flowers, in various stages of the transition (so common with *Borragineæ*) from an original reddish tint to a bright metallic blue, made it, in this stage of its existence, a great ornament to the country. Considerable obscurity hangs over the specific characters of this genus. Dr. Bromfield names the Isle of Wight plant *angustifolia*, and identifies it with *P. azurea* of many German botanists, and of the 'Prodromus;' but in the shape of the leaves, and in some other characters, it seems to me to agree better with *P. tuberosa* or *saccharata* than with *angustifolia* (or *azurea*), at least as described by Grenier and Godron, if indeed all three, and perhaps *officinalis* also, are not forms of a single species. Whatever it be, it is one of the most beautiful of our rarer spring plants.

I sought, but vainly, for *Prunus Cerasus*, the Morella Cherry, which, according to Dr. Bromfield, grows in a wood between Wootton church and Whippingham Street, but nearer to the latter, in the western angle of the wood. Two beautiful woods answer to the description, and I searched them widely; but as they were long and narrow, and ran nearly due north and south, I found nothing which could be called decidedly the western angle of either of them.

On the third day I walked to St. Helen's Spit, a narrow slip of ground, partly sandbank and partly furzy common, lying along the beach, west of the narrow mouth of the inlet called Brading Harbour. I had found more interesting plants here formerly, in particular *Scilla autumnalis*, very tall and luxuriant. It now abounded with incipient *Euphorbia Paralias*, and the wreck of last year's *Salsola Kali*. My object at present, still under Dr. Bromfield's guidance, was *Cerastium tetrandrum*: and I certainly found it, but so mixed with *C. semidecandrum*, and probably others, and among so many intermediate forms, that I much incline towards the growing opinion that at least these two and *C. pumilum* (Dr. Bromfield, and that eminent botanist Mr. Bentham, add *glomeratum* and even *triviale*), are but extreme specimens of the variations of one multiform plant. The Editor of the Phytologist, to whom I had the pleasure of sending a few of my specimens, is far better able than I am to throw light on this interesting and difficult question.

EXTRACTS FROM CORRESPONDENCE.

Remarks on the Botany of Burnham Beeches.

A long letter might be easily written about the locality of these famous old trees, the scene of poetic sentimentalities and unsentimental picnics. Many a name is carved on the smooth bark of the Beeches; many an initial cut into the smooth green turf, which is here and there strewn with the relics and remains of rural refreshments. The Editor's faithful correspondent has little to relate about the plants, because there are but few plants about which there is anything worth relating.

Buckinghamshire has the reputation of being rich in vegetable rarities: will any obliging correspondent make a note of them, and send it to the 'Phytologist'? The list of plants recorded in the 'Botanist's Guide,' as the growth of this county, is a very short one, and one or two out of this meagre number have no right to be here, because they are not Buckinghamshire species. [What are these intrusive species?]

From what I saw of this part of Bucks,—from the variety of its surface and soil; there is marly, gravelly or gritty, and banky

and boggy land here,—I anticipate that in this county, at the proper season, a very fair amount of good plants may be detected. I write 'detected' advisedly; for where next to nothing has been done, every rare plant observed will be a discovery.

The best way of reaching Burnham Beeches from London, is to travel by the Great Western Railway as far as Slough. There, or soon after leaving Slough, the botanist should go to the right hand, by Farnham Royal, by a road almost at right-angles to the London and Bath road. The distance to the Beeches is not more than two or three miles from Slough. But it may be somewhat more, for a person is but an indifferent judge of distance when he travels with those who have the art of beguiling the tediousness of the way, by kindness and sprightly conversation.

Your correspondent does not know how far it is from Slough to the Beeches; he neither walked, nor did he hire or pay for a fly or cab. In the latter case, Cabby would have enlightened his mind and lightened his purse at the same time, and by one and the same process. But it is not a very unpleasant walk, even in a sultry and dusty day, for the lanes are deep and well shaded, and there are several groves, copses, or small woods, which in May or the beginning of June might repay a visit with a reasonable supply of Orchids and other specimens of sylvan or septal plants.

I did not see any Orchids, for it was at the very end of August when I was here; but two Campanulas were observed in the long narrow lane about halfway between Farnham Royal and Burnham. The *C. Trachelium* is certainly there in plenty: not a rarity, it may be said, in many parts of the country; and also, it is hoped, *C. latifolia*, quite a rarity so far south as this locality. *Inula Conyza* (Plowman's Spikenard), *Malva moschata* (cut-leaved Mallow), and *Verbascum nigrum* (black Mullein), were plentiful. The more widely distributed *V. Thapsus* (Moth Mullein, Taper Mullein, Kentish Blanket, etc.) was, as usual, very sparingly distributed. *Ex pede Herculem*, as the ancient sage observed: you can judge of the stock by the sample. The botanist can tell by these examples, *i. e.* when he sees these few prominent representatives of Flora, that he is in a district not destitute of good plants, if he only knows where to look for them, and has energy enough to keep a vigilant outlook, lest he should walk by them, and imagine that there are no rare plants on his way, because he did not see them.

But the Beeches must not be forgotten in these generalities. There they are; and huge and protuberant are their stems; and though rather stumpy in their stature, amply umbrageous (shade-yielding). They surely possess more attractions for the artist or the man of taste, than for the timber-merchant. To the botanist they appear in no way attractive, excepting he be a mycologist. And here he may observe several huge *Polypori* attached to their shapeless, aged trunks, and also one of the most elegant of the *Agaricus*, growing, as it usually does, beyond his reach.

But the great harvest is on the ground, under the trees or beside the trees; for the Beeches of Burnham are not all patulous (spreading), and consequently there is not much which can grow under them: but cheek-by-jowl with them grow innumerable Funguses, chiefly Agarics and *Boleti*, with Chanterelles, *Hydnum*, Clavarias, etc.

A list of these curious plants would possess no interest for the general reader, or even botanist, unless he were also a mycologist, and such a one would rather see them than read about them. The student of this portion of the Vegetable Kingdom might do worse than go to Burnham Beeches, any time between the end of August and the middle of October.

On the Stoke side of the Beeches there is an extensive heathy common, and between the common and the Beeches there is what, in the language of courtesy or by poetic license, might be called a brook, where the bard of the poet * stretched his listless length and pored on the babbling streamlet. In this bog—for it is not a purling burn, except in the fancy of the poet or benevolent observer—there are several ponds or heads of very deep water. In the lowermost—for there is a continuous series of them—grows *Utricularia intermedia*, if your informant is correct in judging by the radical leaflets and their bulbous appendages. The plant rarely flowers with us: it certainly was not in flower when I was at Burnham, and it was raked out of the water in hopes of its proving *Ceratophyllum submersum*. There are in the same water several Pondweeds (*Potamogetones*); but what they are deponent saith not, for a good reason.

At the tail of the bog, stretching out and upwards on the

* See Gray's Elegy:—

"His listless length at noontide would he stretch,
And pore upon the brook that babbles by."

moor, there grow plenty of *Rhyncospora banal, Drosera rotundifolia, Scutellaria minor,* and several other more common plants. *Malaxis paludosa,* a plant which your correspondent wanted to see, but did not, may be there for all that. The ground is boggy enough, and there is plenty of *Sphagnum* to line its nest withal.

Where the chaos of mountains and precipices may be, about which Gray wrote so pleasantly to his friend Horace Walpole, the narrator would very much like to be told. He could not perceive any elevation half so high as the clouds in a fair day, nor anything like a precipice half so fearful as Shakspeare's Cliff. Hills we found none to climb; dangerous crags did not tempt us to risk our necks. But there may be steep craggy places at Burnham, though not in our sight; we were not long there. The venerable Beeches are there still, with their "huge fantastic" roots, and there are other respectable vestiges of the vegetable creation. The timorous hare and sportive squirrel still gambol near the harmless man who is contented with the solitude of the scene, or with what grows out of the ground.

The Londoner who is in quest of a change, *i. e.* of a scene nearly as unlike as possible to that in which his daily vocation lies, should visit this spot. It is too little praise to tell that it is exactly what it was more than a hundred and twenty years ago, bating the poetic embellishments, when the poet described it to his æsthetic friend. This place is exactly what it was hundreds and thousands of years ago. There are no enclosures, no plantations, no cultivation nor improvements. This unique place is still a solitary wild spot, its original character unchanged, and its sylvan beauty unimpaired. Long may its leafy honours appear green and glistening in the summer's sun, and long may the heaps of withered and decaying leaves, partially conceal the scarlet fungus which just peeps through the yielding mass! Long may Burnham Beeches be spared the melancholy fate of Hainault Forest!

BRITISH ORCHIDS.

To the Editor of the 'Phytologist.'

Sir,—If you think the accompanying Notes, extracted from

an interleaved copy of Blackstone's 'Harefield Plants' worth a corner in your interesting journal, they are much at your service; you might call the paper a chapter on Orchises of a hundred years ago. Z.

Kew, March, 1861.

A Chapter on Orchids, etc., of the last Century.

Notes and additions in an interleaved copy of 'Blackstone,' which formerly belonged to Peter Collinson, in whose handwriting they are, in part, and in that of his son Michael Collinson.

At page 41.—*Paris quadrifolia:* the Herb Paris grows in great abundance in Grass Farm Wood, opposite the eighth milestone, in the Mill Hill road, the only place I ever found it, April, 1766; and in Caper's Wood, between the seventh and eighth milestone, grows the black Hellebore, with a green flower (*Helleborus viridis*); flowers at Christmas; found it in March, 1765.

At page 67.—*Listera Nidus-avis:* found in the year 1755, in the Duke of Portland's woods at Bulstrode.

Orchis militaris: found in 1759, in bushy dry banks, going to Greenford (*sic*) Green, near to Dartford; also near the great Beech-trees, so remarkable a landmark in Kent, as you go to Sevenoaks: this in 1758, and it flowered finely in my garden at Mill Hill, in 1760.

Orchis fusca: found this fine Orchis in an old chalk-pit in the Duke of Portland's Park; and it, together with the above, flowers finely in the Orchis bed at Mill Hill.—Note. I have with great care searched the chalk-pit at Harefield repeatedly, but was never able to find either this or the above.

Orchis mascula: in many places about Mill Hill, with a white flower.

At page 68.—*Orchis Morio:* in many fields near Mill Hill, both with white flowers and with almost every variety of red.

Ophrys muscifera: I found this in a chalk-pit at Harefield, but not in the one described by Mr. Blackstone, where I have often searched for it without success, 1758; it continues to flower in our Orchis bed here annually.

Orchis latifolia: near Rickmansworth, plentifully; flowers with us at Mill Hill.

Orchis maculata (?): I saw this species near Newbury, Berks,

in 1755, in moist meadows; sent it to Mill Hill, where after three years, it flowered finely, and is now declined; this same species we received last year from Bath, and it is now (1760) preparing to flower.

At page 69.—*Orchis conopsea:* I found this sort growing plentifully on dry chalky banks, about two miles from the Beeches, near Sevenoaks; not that place where the Man Orchis is mentioned to be found, that spot not being above a quarter of a mile from them; I have searched the Harefield chalk-pit, but was never able to find one plant of it: flowers in our Orchis bed annually.

Orchis ustulata: nor could I ever find this in Harefield chalk-pit: hath been sent to us from Kent, from near Bath, and from Lincolnshire, and flowers freely in the Orchis bed.

Orchis pyramidalis: near Sevenoaks Beeches, and near to Bumstead, in Essex; I found one plant in the Harefield chalk-pit: it flowers with us at Mill Hill.

Herminium Monorchis: found it as described, in the Duke's pit plentifully; is a very small species, and smells very sweet: flowers in our Orchis bed here.

At page 70.—*Orchis bifolia:* once met with two plants near Mill Hill, 1757; again found it in plenty in 1766: it succeeds in our Orchis bed.

Ophrys apifera: I found this on the banks of the Avon, by the Hot Wells, Bristol, and removed some roots to Mill Hill, where it just flowered after remaining four years in the bed, and after died by maggots eating the heart of the bulbs; I have also found it in sundry other places, as in the Isle of Wight, and at Verulam, near St. Alban's; always had bad success in their removal; but since, viz. in the year 1765, have suceeeded.

Orchis hircina: the Tragorchis is a most noble plant, but it is a very rare one; I never saw it but once, and that was a little beyond Dartford, on the road to Greenstreet Green, very sparingly. I removed a large sod of them to Mill Hill in 1759, which consisted of three distinct bulbs, and which I carefully separated, but to my great mortification not one of them ever appeared. My father formerly removed into his garden at Peckham this curious plant, and it flowered there with him for several years. The place whence he got it was near to the fourteenth milestone, just before you come to Dartford Heath, which spot is since entirely demolished by enlarging the road. We found it

since in Heath Lane and in Stanhill chalk-pit; the flowers are of gigantic size in the Orchis bed. Again, in May of the year 1767, I found, in an old chalk-pit near Dartford Heath, several plants of the Tragorchis; also six or seven of the larger Fly Orchis, growing upwards of a foot in height. There had been a destroyer in the same pit a little before me, who had (by the holes in the turf) carried away with him in full flower near seventy roots, most of which would undoubtedly perish, and thus this species of Orchis rare to be met with here for the future.

Ophrys aranifera: On the 11th of May, 1767, I have found two roots of this, the early green-winged Bee Orchis in the chalk-pits of Greenhithe, and after, upon the same day, I found great plenty of them growing on an old stony, barren kind of heath, between Greenhithe and Northfleet, on the right hand of the road, and some little distance from it.

At page 72.—*The greater Fly Orchis:* it flowers early in May at this present year, 1760; we received three roots of it from a gentleman at Bath, making a fine appearance in our collection here.

Orchis viridis; I never yet gathered it wild: it hath been communicated to us by our before-mentioned friend at Bath, and it shows for flower this year, 1760.

At page 73.—*Neottia spiralis:* this flowers the latest of all the Orchis kind; we observed some years since that it grew plentifully in a field adjoining to our garden here at Mill Hill; also in another field at Highwood Hill abundantly, both very dry and barren spots; it smells very sweet, but what is most remarkable is, that though growing on the spot, with all the advantage of removing with large sods of earth, and to a soil in a manner its own, yet we have never been able to continue this little difficult plant above one season in our Orchis bed.

At page 74.—*Orchis chlorantha,* the smaller Butterfly Satyrion: my father saw this Orchis growing in a wood between Hampstead and Highgate (now the property of Lord Mansfield, and since enclosed by him with pales); it succeeded well for some years in the garden, and then went off. I saw this plant, in 1756, growing in great abundance for more than two miles' riding among the bushes in Enfield Chase, between Southgate and the Lodge, now in the possession of Mr. Jalabert (1760); there is one plant remaining of it in the Orchis bed, which continues to

flower yearly. This Orchis is in my opinion by far the sweetest scented of the whole tribe.—N.B. This flowers a month later than the larger kind.

At page 76.—An elegant kind of *Bee Orchis*, with white wings, and the body of a yellowish shade, growing at or near Rancomb, in Gloucestershire, was found by Mr. Robins, of Bath, one root of which, as well as an elegant painting of the same, we received from Mr. Haviland, of Bath. Mr. Robins gathered ten or twelve in full bloom in 1760.

At page 85.—In the year 1787 I had a present of three roots of the *Wasp Orchis* (?), found at Clifton, near Bristol, of which one root flowered finely in the year 1791; the lip very narrow, yellow, and streaked with dark purple, very analogous to the insect it is named after.

At page 86.—In July, 1788, found, for the first time, after many years' inquisition in Harefield chalk-pit, the common *Bee Orchis*, not in the area, but on the bank upon the right-hand side; and in July, 1790, another plant of the same, together with (for the first time) several very strong roots of the common *Fly Orchis*, never in the course of twenty-six or twenty-seven years observed by me before, although I had searched for it at various times; found also abundance of *Orchis pyramidalis*, and of *O. conopsea*; but of *O. militaris*, and of *O. ustulata* I never could (after the most diligent investigation) meet with a single plant.

The whole of the above is copied from the interleaved copy of Blackstone's 'Harefield Plants,' as before mentioned. Some of the entries are evidently by Peter Collinson, and others in the handwriting of his son Michael Collinson.

The following, extracted from Mr. Dillwyn's privately printed account of the garden at Mill Hill, will form an interesting appendage to the present paper. Under the article *Ophrys muscifera*, at p. 36 of the 'Hortus Collinsonianus,' we read:—"Mem., July 4th, 1757. Went to the Duke of Portland's, at Bulstrode; stayed to the 11th. In returning found the great *Fly Orchis* on the declivity of a chalk-pit in Esquire Cook's park, in the parish of Harefield, Middlesex; but there is one Miles, a parson, of Cowley, near Uxbridge, who is Orchis-mad, and takes all up, leaves none to seed, so extirpates all wherever he comes, which is cruel, and deserves chastisement." And a

little further down, under *Orchis hircina*, we read:—"Mem., July, 1763. Miller's Satyrium, No. 2, now in bloom in my garden, three feet high, above fifty flowers." Again, under *Orchis pyramidalis*, we find this curious note by Mr. Dillwyn: "In the 'Daily Adverstiser' for July 4, 1768, *Orchis pyramidalis* appears in a list of plants stolen from Mr. P. Collinson, and there are memoranda of many imperfectly defined species, sufficient to show that he possessed a large collection of the more hardy Orchises."

RESULTS OF A FEW HOURS' RESEARCH IN BUDDLE'S HERBARIUM.

This collection, sometimes quoted by Sir J. E. Smith, in his excellent work on the British Plants, forms a portion of the immense herbarium of Sir Hans Sloane, probably the largest contribution to science made by any single private individual of the age in which this eminent naturalist lived. The volume is numbered, and there is a manuscript catalogue of the contents in the rooms containing the Banksian Herbarium, and this catalogue may be readily consulted.

The specimens in Buddle's Herbarium are arranged after the system of Ray in his 'Synopsis.'

The following doubtful species occur:—

1. *Sorbus*, or *Pyrus domestica*, from hilly places in Cornwall, sent by Walter Moyle, Esq., and Mr. Stevens, of that county. See Ray's 'Synopsis,' ed. 1696, pp. 295. Smith, Sir J. E., states, *in loco*, 'English Flora,' p. 364, vol. ii.: "In the mountainous parts of Cornwall, many places, according to Mr. Moyle and Mr. Stevens."

2. *Scilla bifolia*, without a locality, but supposed to be a wild plant, because associated with other acknowledged British spontaneous productions.

3. It is now clearly ascertained that the specimen of *Tordylium* in Buddle's Herbarium is not anything but *T. maximum*. Though entered by Sir J. E. Smith as seen at Isleworth by Mr. Doody (see Eng. Fl. ii. 104), it is clear that he considers *T. officinale*, as entered in Buddle, to have been only *T. maximum*.

The following is in Merrett's Herbarium:—*Medicago denticulata*, first, it is believed, distinguished from *M. minima* or *M. maculata* by the Rev. G. E. Smith, and published in his account of the plants of South Kent, is in the above-mentioned collection, vol. ii. p. 68. Also *Melilotus vulgaris*, under title *M. germanica*. This proves that the white Melilot is not a recent acquisition to our Flora.

This Herbarium contains branched examples of *Botrychium Lunaria*. H.

KENTISH BOTANY.

Notes and Observations made during a Week's Botanizing in South Kent. By a Correspondent.

The indigenous plants of some of our English counties have been well investigated and ascertained, and Cambridge, Hertford, Devon, Bedford, Oxford, Hampshire, Shropshire, and Sussex may be quoted as examples. Some smaller districts have also been well searched, and Manchester, Reigate, Liverpool, and Faversham are among the number of these favoured localities. The county of Essex is no longer to be a *terra incognita* to the botanists of other parts of the kingdom.

The county Flora of Surrey is still in abeyance, waiting for some enterprising, zealous member of the fraternity to enter into and complete the unfinished work of the late lamented Mr. Salmon, who effected more for the elucidation of the plants of his adopted county than any local botanist within the range of our acquaintance.

The metropolitan counties, with the exception of the fore-noted one, viz. Essex, are still waiting for their local botanical historians to record and publish their native productions. There are, it is believed, some manuscript materials on the Floras of the home counties, as they may be called, but they are at the present time unavailable for scientific purposes.

Isolated and distant portions of Kent have been searched, and lists of these districts have appeared; for example, of the Blackheath hundred, by the Greenwich Natural History Society; also the plants of Faversham, published by Jacobs in 1777, and again by Cowell in 1839, and again by Stowell in 1856.

The Rev. G. E. Smith's 'Plants of South Kent' contributed much to our knowledge of the botany of certain localities in the south-east of Kent; but as a whole, the botany of this county is still unknown.

The London botanists usually confine themselves to the northern parts of the county, along the Thames, and consequently the plants of Gravesend, Cobham, Cuxton, Northfleet, Greenhithe, etc., come in for the greater share of their attentions. Who knows the botany of the Crays,—Foot's Cray, North Cray, St. Paul's Cray, Crayford, etc.? Did the late Mr. Peete, of Dartford, leave any manuscripts on this subject? Who has traversed the range of chalk hills bounding the Weald of Kent on the north-west through Westerham, Wrotham, etc., down to the mouth of the Medway? We are not aware of any addition to the knowledge of our native plants being made in these parts during the present century.

The journey, of which a brief account follows, was undertaken partly for botanical purposes, and partly for change of scene, fresh air, and general conversation (interchange of ideas on scientific, social, and political subjects). Although we rather shun than court publicity, and therefore do not publish our names, yet any reasonable information or explanation will be given by the Editor to any applicant. It may further be satisfactory to the readers of the 'Phytologist' to be assured that no plant is entered about which there was any doubt in our minds respecting either its identity or its spontaneity. It is also proper to intimate that the pronoun *we*, (truly and necessarily employed in the following narration,) does not mean the editorial *we*, but is simply the representative of two persons who were engaged with one mind in the prosecution of a common object. The writer is *one*, but the facts observed and recorded were seen by both the observers.

Although our botanizing, strictly speaking, commenced in the ancient city of Canterbury, our notice of a few Faversham plants is to be regarded as only an episode to this narration of our excursion, yet we were now and then able to catch a hasty glimpse at certain plants on the railway bank or cutting along which we were moving at the rate of from thirty to forty miles an hour. For example, between Woolwich and Erith we saw *Erigeron acris*, which is rather a *pascual* (pasture) than a mural or rupes-

tral (wall or rock) species. *Verbascum Lychnitis* also appeared on the chalk cutting between Erith and Greenhithe. We subsequently saw this rare plant on a wall, a very unusual habitat (?). (The yellow Foxglove, *Digitalis lutea*, is well established on an old wall in Garret Lane, Wandsworth.) *Centranthus ruber* is well established in the sides of the deep cutting between Northfleet and Gravesend. This plant abounds on several chalk rocks in this vicinity. We subsequently observed this introduced (?) plant in a still more unexceptionable station, see *infra*. It may, however, be confidently asserted, that the examples which were seen about the railway on the London side of Gravesend were not indebted to human agency for their introduction into either this locality or into the one to be hereafter recorded.

We reached Canterbury in time to look at only a few of the antiquities of this most ancient town, to an antiquary, historian, or devotee, one of the most interesting of British cities. The plants observed on the walls were repetitions of some seen and already recorded as Faversham plants. See 'Phytologist' for April, 1861, p. 108.

Before breakfast, while at Canterbury, we walked up to Harbledown on the London road, about a mile from the city. From this elevation, which is not great, there is a good view of the cathedral, the churches, gates, and other objects of interest in the ecclesiastical metropolis of the realm. This hill was notable for its antiquities when Erasmus visited England, more than three centuries ago. We did not see much of the remains even of the hospitals, lazar-houses, and chapels which once crowned this well-known spot. We did not see clearly the city and its notabilities, because the atmosphere was hazy; yet it was pleasant to walk over this hill, and to look down into the deep hollow road, trodden by myriads of pilgrims in bygone times, and to muse upon the scenes and circumstances of days long past. Solemn inferences and sentimental reflections might be indulged in on the contrast between the state of this city three or four centuries ago and its present condition; but these would be out of place here, as much so as the old shoe of St. Thomas, kissed by devotees, would have been out of place in the exhibition of farming implements which was held this year, 1860, in the agricultural capital of England. The present charitable foundations are of a rather more utilitarian kind than those were that existed

when Erasmus wrote his *Peregrinatio Religionis*, in which is introduced a rather humorous account of this ancient custom, which scandalized the Protestant Dean Colet, and appears to have only drawn a smile from the countenance, and a coin from the pocket, of the liberal-minded Reformer.

The memory of these superstitious usages has passed away. The shoe is no longer, if existing, exhibited to excite the pious admiration of the passenger. It is probably in the collection of some virtuoso. We saw no objects of interest on Harbledown, neither antiquarian nor vegetarian.

At Harbledown, or rather on it, we observed *Rumex pulcher*, far from an uncommon plant in Kent; also *Torilis infesta*, an infestive (noxious) weed about Southend, on the opposite coast: here also *Polystichum angulare* was observed. These plants are hardly worth recording, but they are entered as the only species which were seen, not as rarities in this part of the country. *Centranthus ruber* grew on walls here and there in this city.

About ten o'clock, on our second day's journey, we started from Canterbury to walk to Sandwich, a distance of a dozen miles, good measure. There is a fair and wide road to walk or to drive on, but there is no public conveyance. Coaches and omnibuses go to Dover, none to Sandwich.

It is now nearly two hundred and thirty years since Thomas Johnson, the famous editor of Gerard's 'Herbal,' with his friends William Broad, Leonard Buckner, Robert Larkin, James Clarke, etc., walked from Sandwich to Canterbury on an expedition like that on which we were employed. Those who have the curiosity to compare the results of these exploring botanists, who travelled by the same road as ourselves, with the plants observed by us, will find some, though not many, common to both the lists. Johnson names upwards of a century of plants collected by his company between Sandwich and Canterbury. Probably our list will not contain one-tenth of the number which he observed. The nomenclature usual in the first half of the seventeenth century is a formidable impediment in the effort to compare the results of the two journeys.*

* Mr. T. Johnson and his associates observed above a hundred plants in their walk from Sandwich to Canterbury. Of these only four or five are recorded in the present list. Many more were probably seen, but they were not such as could with propriety be entered in an account of the rarer species observed.

We were singularly favoured with very fine weather, a most important item in the success and enjoyment of a botanical tour. The summer of 1860 will be long remembered as one of the most inclement or unpropitious seasons which any one now living has ever seen. Two fine days in succession were quite as unusual, as the fulfilment of predictions of a change of weather at the change of the moon. Where we happened to be all this week, the first in September, the weather was fine, without showers, and with a bracing, for the most part east or south wind. We had a few drops, or a slight sprinkling of wet before we reached Ash, and when there, the road gave unmistakable indications of a heavy shower. The nearer we approached the sea, the wetter was the road; and the landlord of the Bull, Sandwich, informed us that they had there a considerable fall of rain. Had we started only an hour earlier, our walk to Sandwich would not have been quite so pleasant as it happily was.

Our first plant (for this day, strictly speaking, was the commencement of our journey) was picked up on the roadside between Canterbury and Littlebourn, on the left-hand side of the way, near a path across what was a park in not very remote times, but now a pasture field, and where there is a couple of gateway pillars, not unhandsome, and of the style of similar erections of the age of Queen Anne or George I.; the place is not above a mile from Canterbury or from St. Augustine's Abbey. This is a very minute description of the locality; but the plant we saw there is rather a scarce species. We could count on our fingers all the places where it has been seen in Surrey, Hertfordshire, and Cheshire, and leave some digits uncounted after completing the tale. Therefore the station of *Dipsacus pilosus* is thus circumstantially described. It grows here both fine and plentiful, well ensconced behind brambles and briers, by which it is both protected and concealed till about this season, when it overtops its prickly shelter. If as much space is filled with our subsequent discoveries as with the first, this article will swell far beyond the usual limits, within which it is necessary, for the sake of space, to restrain such accounts.

Calamintha officinalis appeared on the roadside, and, as usual, in no very great abundance. In a field on the left, cultivated with cabbages and other culinary vegetables, *Linaria Elatine*, *Stachys arvensis*, and *Anthemis arvensis* were found in plenty.

Cerasus avium grows in the hedge, and *Hypericum humifusum* on the grassy borders of the road.

At Littlebourn, *Veronica Buxbaumii* was well established. This plant has now obtained a sufficient settlement in the south of England, although barely thirty years ago it was as great a rarity as *Arenaria balearica* is at the present time, 1860.

It would now be accounted sheer pedantry, or affected *purism*, to refuse to enter this south European species in any list of our spontaneous vegetable productions.

Between Wingham and Ash, on the left-hand side of the road from Canterbury, we were so fortunate as to light upon a large colony of *Geranium pyrenaicum*, rivalling in size and beauty those collected in the mountainous districts of the south of Europe, from which this fine and rare plant has obtained its name.

This very gratifying discovery enlarged and rectified our knowledge about the distribution of this species, which some believe to be a doubtful native. This plant has long been known as a denizen of the valley of the Thames, above London, both on the Surrey and Middlesex sides of the river. Its detection in the south-east of Kent is, it is believed, recorded here for the first time.

Torilis infesta and *Fœniculum vulgare* are also entered in the note-book made during this journey, and at this part of the route. In the village of Ash, *Sedum reflexum* was very abundant on roofs and walls; and while on the subject of introduced plants, it may be stated that *Hypericum calycinum*, *M. hircinum*, *Coronilla Emerus*, were pretty well established as plants which apparently would establish themselves on a bank by the wayside, contiguous to a shrubbery.

After passing through Ash, we entered Sandwich marshes, and in the deep ditches collected *Utricularia vulgaris*, *Hydrocharis Morsus-ranæ*, in flower. This fine floating species flowered very sparingly during the past season. In these ditches *Lemna trisulca* abounded, with *Ceratophyllum demersum*, *Ranunculus circinatus*, *Myriophyllum verticillatum*, *Œnanthe fistulosa*, *Typha angustifolia*, *Scutellaria galericulata*, and other more or less common aquatic plants.

At the entrance to Sandwich we turned aside to the left, to visit the ancient ruined fortress of Richboro', the Roman Rutupiæ, and walked partly along the river-bank, and partly on the

verge of the cliff on which this curious antique pile still remains, defying alike the operations of atmospheric influences and the insidious attacks of Father Time.

On our way along the flat ground near the river, *Rumex pulcher*, *Centaurea Calcitrapa*, and *Sisymbrium Sophia* were seen, the latter very sparingly; also *Fœniculum vulgare*, *Apium graveolens*, *Rumex Hydrolapathum*, *Ononis spinosa*, and *Torilis nodosa*, in profusion; *Cynoglossum officinale*, *Hyoscyamus niger*, and *Pyrethrum maritimum*, the three last-named not so plentiful.

On the edge of the cliff, in the field close to Richboro', by the hedge, we lighted on some very sturdy remains of *Smyrnium Olusatrum*. Not from from this place, there was a long narrow patch of potato-ground, where fine, well-established plants of *Œnothera odorata* were growing.

The ruins or remains of Richboro' consist of an external wall, nearly perfect on all sides except toward the sea, which has made considerable encroachments on this part of the coast. The wall is of great thickness, from twelve to twenty feet, and it is probably twenty to thirty feet in height. On the inner side it appears mostly composed of flint, imbedded in mortar now nearly as hard as the flints themselves. On the outside, there are, besides flints, consecutive rows or layers of Roman brick or tile, arranged equidistantly in a double band.* The vegetation of the wall is chiefly *Echium vulgare*, *Centaurea scabiosa*, and a few smaller but equally common plants.

At the base of the wall, in the interior, the ground is full of Fennel of gigantic growth. This is spreading over the enclosed area, which this season, 1860, was cultivated with barley. The Fennel will grow in any crop, and soon overtops the tallest cereals.

Fennel, probably because it is a plant usually cultivated in gardens, is a reputed introduction; and this is probably the case. But all along the coast, by the ditches, hedges, and about the cliffs, it is almost as common as *Apium graveolens*.

It is very common on the hills, and in the sand-pits between Woolwich and Dartford, where the wild Celery does not grow.

* If there be any truth in Archdeacon Battely's map, Richboro' has been much changed since it was described by Tacitus. The coast and the river are not now where they are laid down in the map of the reverend geographer, who lived many centuries after the Roman historian.

Botanists who have been in Cornwall, report it as being truly wild about the Land's End. It can hardly be more wild than it is in most parts of south Kent.

On our return from Richboro' towards Sandwich, we met with the same *Œnothera;* but as the evening was now more advanced, it showed many more open flowers, and like Buttercups in June, "would be seen whether we would or no." It was well established all down the steep declivity, and had taken possession of the grassy borders of the railway. Like the *Œnothera biennis,* it delights in railway embankments; and like the more common species, it is evidently increasing; but it is a much more ornamental and neater plant than the commoner species. It will probably soon force itself on our notice, and also obtain a place among our excluded species. It will intrude whether we like it or not, and if it is not honoured with a name and a place among our spontaneous plants, it will continue to spread notwithstanding, and sometimes will find a place, as at Richboro', which it bids fair to retain. It is to be wished that it may also obtain historians who may not be ashamed to admit its humble pretensions to historic fame. *Conium maculatum* was another not uncommon species seen in this locality.

About the precincts of Sandwich, and in some parts of the town, *Diplotaxis muralis, Phalaris canariensis,* and *Sinapis nigra* were observed. The Canary Grass was not nearly so common as it is near London.*

* This fact affords an instructive lesson to those who volunteer to instruct their less informed brethren in the mysterious doctrines about the distribution or dispersion of plants. It has been generally reported in books descriptive of the Isle of Thanet, that this plant, the Canary Grass, is extensively cultivated in the north-east corner of Kent. This fact must be taken for granted, for we cannot confirm it. But we can assure our readers that the Canary Grass which grows so commonly in many parts near London is not "an escape from cultivation."

Some of these escapes from cultivation are quite as wonderful as many of the wondrous accounts of the appearance of strange plants where they had never appeared before. They are more so, because most of these plants called escapes were never cultivated; nor are they worth cultivation, either for use or for ornament. Sandwich, where a single plant of Canary Grass was seen in September, 1860, is not far from the Isle of Thanet, where this grass is said to be extensively produced. The vicinity of London, where thousands of specimens may be easily collected, is far from the centre of its cultivation, or "the type of its distribution." Why is it so common near London and so rare near Thanet? The answer is easy; London is the great emporium of the empire. All, or nearly all, the harvest or

Prosperity has deserted Sandwich, and has patronized its neighbour, Deal. The former town has been decaying ever since it was forsaken by the sea. It is a dull place, with few attractions even for the antiquary, and the town itself is not very interesting to the botanist, though some of the less frequented streets be green with vegetation. Yet a botanist might spend a week very profitably in this ancient member of the Cinque Ports, and might find good botanizing between Pegwell Bay on the east, and Ham Ponds on the west; and between Sandown Castle and the old haven of Sandwich on the south, and Ash on the north. Mine host of the Bell is a good speci-

produce of Canary Grass is first brought to London, and from this centre it is dispersed far and wide over all the kingdom. But the chief reason why the Grass is frequent near the Metropolis is, because there are more Canary-birds kept in London than there are anywhere else. Thus the appearance of Canary Grass, common Hemp, and Flax, are easily accounted for.

London is the great mart of the whole world; the productions of all the earth reach this great city. It is the great centre, or type, as some would say, of vegetable distribution. London is certainly the centre from which many of our novel plants have emanated or radiated, but it is not the field where they have been much cultivated. The sweepings, the refuse, the rejectamenta of our granaries, seed-warehouses, the shakings of sacks, the litter of stables, all contain seeds from distant parts of the world, some more, some less. These find a place in the dust-bins, the dung-pits, and other more unsavoury localities; ultimately they are all conveyed to the country in the manure, or they are conveyed by, and in, the sewage to the river, where some of them probably perish; a remnant is dredged up in the sand and mud, and thus are deposited in waste places till these are used for more profitable purposes; and the seeds or some of them grow, some for one season, some for several.

Commercial intercourse is the chief agency now in operation, disturbing the law of the distribution of plants, and sometimes they disturb and discomfort the minds of the inventors themselves, who have been at much pains in establishing the laws of Nature, which Nature, like an ungrateful hussy as she is, obstinately refuses to obey.

After the strangers have arrived, cultivation plays a most important part in their preservation; but it has usually less to do with their introduction than other causes have. Winds, tides, currents, animals, birds especially, have obtained much credit for increasing the vegetative wealth of countries; but it is to the operations of human agency, to commercial intercourse, that we are most indebted for the increased and still increasing numbers of our plants.

When our London drainage has been completed, and when a system for the distribution of the sewage of the Metropolis has been organized, then the botanist may expect a rich harvest of plants from all parts of the earth. Many of them doubtless will perish; but some will remain to astonish the simple natives who believe in the marvellous and overlook and despise causes that are at work before their eyes.

men of a bluff, honest Boniface. His accommodation and fare are satisfactory, and his reckonings very reasonable.

LATHYRUS TUBEROSUS.

The following notices of *Lathyrus tuberosus* are sent by a correspondent:—

There is in Turner's 'Herbal,' 29*a*, part 1st, original edition, a rather obscure intimation that this species is a native of England. From the account of the plant given by this excellent author, it is probable that he confounded two distinct plants under the name of *Astragalus*. His notice is as follows:—"*Astragalus* is named about Colon (Cologne), *Erdekelin;* in Netherlands, *Erdnutt;* in Ouerland, *Erdnusse*. I have sene it in England, in Come (Comb) Park, and on Rychemunde (Richmond) Heth; but I never coulde learne the name of it in Englyshe. I am compelled for lacke of another name to call it *Peese-earth-nutt:* because it hath leues lyke a lytle Peese, or a *Ciche*, and rootes lyke an Erthnut. Although all the description of Dioscorides besyde dyd agre very well unto this herbe, yet when, as I had found the roote in certine moist places very lytle astringent, I began to dowt, but after that I found that in drye places, and that it had a manyfest astryction, I dowted it no more, but that thys herbe was the ryght *Astragalus*, although Fuchsius do contend, that thys shoulde be *Apios*." There is a figure of this plant on the preceding page. It is probable that the plant found in Comb Wood and on Richmond Heath was *Lathyrus macrorhizus* or *Orobus tuberosus*, Linn., a plant very common in such places.

John Parkinson, in his Herbal, published in 1640, appears to have known the true *Earthnut*, *Lathyrus tuberosus;* for his description agrees with this plant, and not with *L. macrorhizus*.

"Fig. 4. *Lathyrus arvensis, sive terræ glandes*. Pease Earthnuts.

"These earthnuts have divers weake and small square stalks running upon the ground, four or five foote long; the leaves are small, usually two set together upon a branch, with a clasper at the end of each, taking hold of what standeth next to it. The flowers come forth from the joynts towards the tops of the stalks upon long foot-stalks, many growing together, being narrow, and

of a deep reddish-purple, somewhat bright; the cods that succeed them are small and long, with small round seeds in them; the roots are tuberous, black, and small, fastened to long strings, which spread much on the ground, in taste somewhat like to a dry chestnut. Bauhinus maketh it and the next (*Lathyrus sylvestris lignosior*) to be both one plant.

"The Peace . . . the fourth (the above-named plant), is said by Gerard to grow in many places with us, as Hamsted, Coome (Comb) Parke, etc.; but we rather think it was the next, for the roots of those we have hitherto found in our woods and hedgesides have beene more wooddy than the other sorts, which, growing in our gardens, we have seen to be more tender, and came to us from beyond sea" (Park. 1062).

In Johnson's *emaculated*, not emasculated, edition of Gerard, it is observed by the learned editor,—who rarely abstains, when an opportunity is given, from throwing dirt on the memory of his author,—states that this was confounded with the more common Wood Pea, *L. macrorhizus*, and thinks it no wonder, since Dr. Turner, a man more exquisite in the knowledge of plants, and who had seen the true *Terræ glandes* in Germany, mistook this (the common Wood Pea) for it. And indeed this grows here, and is much more astringent and woody than that of Germany, and in no wise fit to be eaten." *De gustibus nil disputandum*; every man to his liking. The writer of these notes has eaten the roots of the Wood Pea by the handful, and in those days thought them good, as some Highlanders do in these our more luxurious times. See Ger. Em. 1236.

It will be seen from the above that both Johnson and Parkinson ignore the plant as a British species. See Johnson's Gerard, p. 1236; and Parkinson, 1061.

The next notice of this plant is contained in the 'Historia Plantarum' of the illustrious Ray, who distinctly states that, to his knowledge, it was not spontaneous in England. The following are the synonyms and the authorities quoted by Ray in 1693 (Hist. i. p. 895).

"Chamæbalanus leguminosa, *J. B.*
Lathyrus arvensis repens tuberosus, *C. B.*
Sive terræ glandes, *Parkinson, Dodoens, Lobel, Gerard.*
Distinguitur abunde ab aliis Lathyris radicibus suis tuberosis esculentis.
In Anglia, quod sciam, spontanea non occurrit."

The first reliable and authentic account of *Lathyrus tuberosus* as a genuine native of England, is supplied by Petiver's Herbarium, where there is a specimen, with the following note, viz. "*Lathyrus arvensis repens tuberosus.* I had it from the Rev. John Sedgwick, who gathered it not far from Lincoln, in the north field of Blankney, near the road to Lincoln."

There is in Buddle's Herbarium a specimen of the same plant, and from the same locality, and indorsed by the same authority. This latter-mentioned specimen is in Herb. Sloan. vol. 119. Lobel, Tragus, and F. Columna are undersigned as the authorities for the species.

The last mention of it, previously to its discovery in 1860 at Wandsworth and Fyfield, is to be found in Lightfoot's 'Flora Scotica,' p. 1137.

Lathyrus tuberosus is recorded in Lightfoot in the Appendix, among his "doubtful natives, or such as have not yet come under the author's inspection." All he says about it is as follows, at p. 1137, vol. ii.—"*Lathyrus tuberosus.* In Dr. Hope's Collection, but where collected he does not know."

This plant is stated in Green's Botanical Dictionary to be a "native of France, Germany, Flanders, Holland, Switzerland, Austria, and Siberia. This is a most noxious weed to the husbandman, and is exceedingly difficult to extirpate."

A full account of its recent discovery will be forthcoming in the Flora of Essex, which has been announced in the 'Phytologist.'

EARLIEST DATES OF FLOWERING OF THE FOLLOWING PLANTS OBSERVED IN THE VICINITY OF ROSS, 1860-1.

By H. Southall *and* B. M. Watkins.

Petasites vulgaris, *Desf.* . .	Dec. 16	Corylus Avellana, *L.*	Feb. 16
Poa annua, *L.*	„ 16	Taxus baccata, *L.*	„ 25
Taraxacum officinale, *Wigg* .	„ 16	Alnus glutinosa, *L.*	„ 25
Bellis perennis, *L.*	„ 16	Tussilago Farfara, *L.*	„ 25
Senecio vulgaris, *L.*	„ 16	Veronica agrestis, *L.*	„ 28
Veronica hederæfolia, *L.* . .	„ 16	Ulmus campestris, *Sm.* . . .	March 6
Stellaria media, *With.*	„ 16	Lamium purpureum, *L.* . . .	„ 7
Potentilla Fragariastrum, *Ch.*	Feb. 9	Viscum album, *L.*	„ 7
Mercurialis perennis, *L.* . .	„ 16	Caltha palustris	„ 9
Primula vulgaris, *Huds.* . .	„ 16	Daphne Laureola, ...	„ 9

Ranunculus Ficaria, *L.*	March 9	Geranium Robertianum, *L.*	April 6
Viola odorata, *L.*	„ 9	Erysimum Alliaria, *L.*	„ 6
Viola sylvatica, *Fries*	„ 9	Capsella Bursa-pastoris, *DC.*	„ 6
Viola hirta, *L.*	„ 9	Carex præcox, *Jacq.*	„ 6
Helleborus fœtidus, *L.*	„ 9	Ribes alpinum, *L.*	„ 11
Helleborus viridis, *L.*	„ 9	Carex glauca, *Scop.*	„ 11
Cardamine hirsuta, *L.*	„ 9	Stellaria Holostea, *L.*	„ 16
Carex clandestina, *Good.*	„ 9	Veronica arvensis, *L.*	„ 16
Carex digitata, *L.*	„ 9	Veronica Chamædrys, *L.*	„ 16
Hutchinsia petræa, *Br.*	„ 9	Carex vulgaris, *Fries*	„ 16
Arabis verna, *L.*	„ 9	Cerastium glomeratum, *Thuil.*	„ 17
Luzula pilosa, *Willd.*	„ 9	Plantago lanceolata, *L.*	„ 17
Anemone nemorosa, *L.*	„ 9	Prunus insititia, *L.*	„ 18
Salix Helix, *L.*	„ 9	Myosotis collina, *L.*	„ 19
Ribes Grossularia, *L.*	„ 9	Myosotis arvensis, *L.*	„ 19
Galanthus nivalis, *L.*	„ 9	Hyacinthus non-scriptus, *L.*	„ 22
Anthriscus sylvestris, *Pers.*	„ 14	Ranunculus bulbosus, *L.*	„ 22
Luzula campestris, *L.*	„ 16	Veronica polita, *L.*	„ 23
Chrysosplenium oppositifolium, *L.*	„ 28	Fragaria vesca, *L.*	„ 23
Glechoma hederacea, *L.*	„ 30	Galeobdolon luteum, *Sm.*	„ 23
Populus nigra, *L.*	„ 30	Arum maculatum, *L.*	„ 23
Oxalis Acetosella, *L.*	„ 30	Prunus avium, *L.*	„ 23
Ulex europæus, *L.*	„ 30	Vicia sepium, *L.*	„ 24
Gagea lutea, *Ker*	„ 29	Luzula Forsteri, *DC.*	„ 25
Narcissus Pseudo-Narcissus, *L.*	„ 20	Luzula Borreri, *Bromf.*	„ 25
Narcissus biflorus, *Curt.*	„ 29	Ajuga reptans, *L.*	„ 25
Cardamine pratensis, *L.*	„ 30	Ranunculus aquatilis, *L.*	„ 25
Ribes rubrum, *L.*	April 1	Mœhringia trinervia, *L.*	„ 25
Lamium album, *L.*	„ 1	Symphytum officinale, *L.*	„ 29
Prunus spinosa, *L.*	„ 2	Barbarea vulgaris, *Br.*	„ 29
Primula veris, *L.*	„ 2	Chelidonium majus, *L.*	„ 29
Primula vulgaris, β elatior	„ 2	Orobus tuberosus, *L.*	May 2
Viola tricolor, *L.*	„ 2	Lychnis vespertina, *Sibth.*	„ 2
Veronica agrestis, *L.*	„ 2	Orchis mascula, *L.*	„ 2
Sisymbrium thalianum, *Gaud.*	„ 2	Luzula sylvatica, *Rich.*	„ 2
		Cratægus Oxyacantha, *L.*	„ 5

NOTICE.—To the above list the following is subjoined for the information and benefit of botanists, viz. that I will send fresh specimens of the *Luzulas* to readers of the 'Phytologist' on the condition that they send me a stamped envelope with the name and address of the sender.

B. M. WATKINS.

Glewstone, near Ross.

[It would be very obliging if our correspondent would include in his kind offer some of the other rare plants, viz. *Gagea, Narcissus,* etc.—ED.]

HYDROCHARIS MORSUS-RANÆ.

On the Hybernacula of Hydrocharis Morsus-Ranæ.

By L. C. Treviranus.*

The fact that *Hydrocharis Morsus-Ranæ*, besides its seeds, has another mode of reproduction by certain little bulbs developed on the roots, which, becoming detached, pass the winter at the bottom of the water, has already been noticed by Nolte ('Ueber *Stratiotes* und *Sagittaria*,' 6), and is alluded to by Linnæus, in

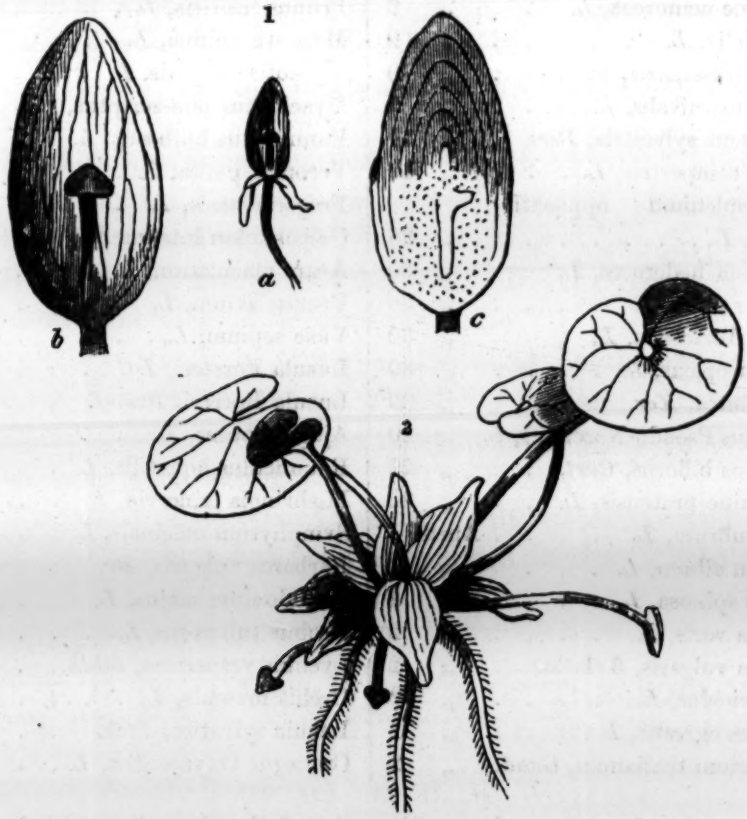

Fig. 1. *a*. Hybernaculum of *Hydrocharis Morsus-Ranæ*, as observed on the 21st of August, natural size, with the lowest scales bent back. *b*. The same, magnified, the outer scales removed. *c*. A vertical section of the same. Fig. 2. The same, on the 1st of March, in process of development, somewhat enlarged.

a few words, in the 'Flora Suecica.' Fried. Nees (Gen. Flor. Germ. vi. t. 15) has given a tolerable representation of these bulbs, but without mentioning their mode of development. When

* Translated from the 'Botanische Zeitung,' No. 41. p. 699 (1857).

observed towards the latter end of the month of August, they are long-stalked, elongate, oval bodies, the largest of which are about the size of a small coffee-bean. If cut through vertically, the lower half is found to consist of compact cellular tissue, in which the germ of rootlets is perceptible; the upper, of rudiments of leaves, alternating with large gibbous stipules (sackförmigen Nebenblättern), which are membranous, and veined with red. Of the rudimentary leaves, the outermost has a long stalk, and a very small, kidney-shaped, not folded blade, with red spots; in the second the blade is much larger and the stalk shorter, and in the third still more so. By the 1st of March I found these little bulbs in a state of rapid development. Each had put forth three or four perfect leaves, while the blade of the above-described rudimentary ones remained unaltered in size and shape, though its stalk had somewhat lengthened. The accompanying drawings, made by me during these observations, will obviate the necessity of any further explanation.

BOTANICAL NOTES, NOTICES, AND QUERIES.

Hairbell *v.* Harebell.

It appears that Sir W. Hooker, in his 'British Flora,' considers that the *Campanula rotundifolia* is the Harebell of Sir Walter Scott's 'Lady of the Lake,' as he quotes the lines of that author in his description of this flower; but it should be observed that Harebell is the common name given by our early writers to the *Hyacinthus nonscriptus*.

Gerard (book i. chap. 79) speaks of Jacinth or Harebells, including *Hyacinthus anglicus*. Elisha Coles, in his Dictionary, gives "Harebells, *Hyacinthus anglicus*." And this flower is mentioned by Shakspeare in 'Cymbeline,' on Fidele, as follows:—

> "Thou shalt not lack
> The flower that's like thy face, pale Primrose, nor
> The azured Harebell, like thy veins."

Coles also gives Hare's-ear, *Bupleurum*, and Hare's-Lettuce, *Sonchus levis*. We have also in our Flora, a *Trifolium* called Hare's-foot Trefoil. I am therefore curious to know the name of the first writer who calls the *Campanula*, Harebell. In the 'Illustrated Handbook of British Plants,' the *C. rotundifolia* is called Nodding-flower Harebell; but the Rev. Mr. Johns, in his 'Flowers of the Field,' calls it Hairbell. The latter appears to me most appropriate.

H. Beisly.

Gold Blotched Weeping Ash.

In communicating several examples in connection with *Cytisus Laburnum*, var. *purpurascens*, as registered in the 'Phytologist' of September, 1859, I beg to add the following:—Several years ago, I grafted a scion of the Blotched-leaved Weeping Ash upon a stock of the common Ash, in ground one mile from this city. After two years, I lifted the plant to ground occupied by me within the city itself, and there it rested several years, being, from its lofty position, exposed to our cutting winds from the sea. Last season it made a start with young wood from the graft, and also from the stem about two feet below the graft, such young shoots being clothed with leaves having the same blotched variety as the graft; the bark of the graft and the spontaneous shoots from the stem referred to, being also shaded with a golden-bronzed or yellow colour. Four feet down the stem, a shoot from the stock is also allowed to remain, bearing the green bark and leaves of the common Ash. G. Howie.

St. Andrew's, March 5, 1861.

Shakspere Plants.

In 'Hamlet,' act 1, scene 5, the Ghost says to Hamlet:—

> "And *duller* shouldst thou be than *the fat* weed
> That rots itself in ease on Lethe's wharf,
> Wouldst thou not stir in this."

In Mr. Douce's 'Illustrations of Shakspere' is the following note:—"The plant here alluded to might have been *Henbane*, of which Gerard says that it causes drowsiness and stupifies and *dulls the senses*." I think some of the contributors to the 'Phytologist' may be able to give us a little more information on this subject. S. B.

Petasites vulgaris.

A correspondent wishes to know a Kentish locality, within an easy walk of the Metropolis, for *Petasites vulgaris*. Can any of our readers favour us with one?

Blechnum Spicant, var. *ramosum* (see p. 159, vol. v., N.S.), has both sterile and fertile fronds on the same *stipes*.

Communications have been received from

G. Davies; W. P.; B. M. Watkins; Dr. Windsor; W. W. N.; Sidney Beisly; John Sim; Tom Stansfield; W. Richardson; C. J. Ashfield; James Lothian.

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